

ENGINEERING INTERPRETATIONS

Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Hancock County, Iowa

| Map symbol and soil name | Pond reservoir areas | | Embankments, dikes, and levees | | Aquifer-fed excavated ponds | |
|-----------------------------|---------------------------------------|--------------|---|----------------------|--|--------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 6: Okoboji----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Ponding Hard to pack | 1.00 1.00 0.73 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 28: Dickman----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.82 | Very limited No ground water | 1.00 |
| 28B: Dickman----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.82 | Very limited No ground water | 1.00 |
| 28D2: Dickman----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.82 | Very limited No ground water | 1.00 |
| 52B: Bode----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.56 | Very limited No ground water | 1.00 |
| 52C2: Bode----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.50 | Very limited No ground water | 1.00 |
| 52D2: Bode----- | Somewhat limited Seepage Slope | 0.70 0.01 | Somewhat limited Piping | 0.50 | Very limited No ground water | 1.00 |
| 52E2: Bode----- | Somewhat limited Seepage Slope | 0.70 0.04 | Somewhat limited Piping | 0.50 | Very limited No ground water | 1.00 |
| 55: Nicollet----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping | 1.00 0.01 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 72: Estherville----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.10 | Very limited No ground water | 1.00 |

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|-----------------------------|---------------------------------------|--------------|---|----------------------|--|--------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 72B: Estherville----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.10 | Very limited No ground water | 1.00 |
| 72C2: Estherville----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.10 | Very limited No ground water | 1.00 |
| 72D2: Estherville----- | Very limited Seepage Slope | 1.00 0.01 | Somewhat limited Seepage | 0.10 | Very limited No ground water | 1.00 |
| 73C2: Salida----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.54 | Very limited No ground water | 1.00 |
| 90: Okoboji----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Ponding Hard to pack | 1.00 1.00 0.43 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 95: Harpis----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 107: Webster----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 135: Coland----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 138B: Clarion----- | Somewhat limited Seepage | 0.70 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| 138C2: Clarion----- | Somewhat limited Seepage | 0.70 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |

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|-----------------------------|---------------------------------------|--------------|---|--------------|---------------------------------------|-------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 138D2: Clarion----- | Somewhat limited Seepage Slope | 0.70 0.01 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| 174: Bolan----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.02 | Very limited No ground water | 1.00 |
| 174B: Bolan----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.02 | Very limited No ground water | 1.00 |
| 221: Palms----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Ponding | 1.00 1.00 | Somewhat limited Cutbanks cave | 0.10 |
| 224: Linder----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.14 | Very limited Cutbanks cave | 1.00 |
| 236B: Lester----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.18 | Very limited No ground water | 1.00 |
| 236C2: Lester----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.18 | Very limited No ground water | 1.00 |
| 236D2: Lester----- | Somewhat limited Seepage Slope | 0.70 0.01 | Somewhat limited Piping | 0.18 | Very limited No ground water | 1.00 |
| 236F: Lester----- | Somewhat limited Seepage Slope | 0.70 0.12 | Somewhat limited Piping | 0.18 | Very limited No ground water | 1.00 |
| 259: Biscay----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.08 | Very limited Cutbanks cave | 1.00 |

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|-----------------------------|---------------------------------------|-------|--|----------------------|--|----------------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 274: Rolfe----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Ponding Piping | 1.00 1.00 0.01 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 288: Ottosen----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 308: Wadena----- | Very limited Seepage | 1.00 | Very limited Seepage | 0.99 | Very limited No ground water | 1.00 |
| 308B: Wadena----- | Very limited Seepage | 1.00 | Very limited Seepage | 0.99 | Very limited No ground water | 1.00 |
| 335: Harcot----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.25 | Very limited Cutbanks cave | 1.00 |
| 348: Fieldon----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Ponding Seepage | 1.00 1.00 0.11 | Very limited Cutbanks cave | 1.00 |
| 384: Collinwood----- | Somewhat limited Seepage | 0.01 | Somewhat limited Hard to pack | 0.05 | Somewhat limited Slow refill Depth to water Cutbanks cave | 0.99 0.81 0.10 |
| 384B: Collinwood----- | Somewhat limited Seepage | 0.01 | Somewhat limited Hard to pack | 0.05 | Somewhat limited Slow refill Depth to water Cutbanks cave | 0.99 0.81 0.10 |

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| Map symbol and soil name | Pond reservoir areas | | Embankments, dikes, and levees | | Aquifer-fed excavated ponds | |
|-----------------------------|---------------------------------------|--------------|---|----------------------|--|----------------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 388: Kossuth----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| 390: Waldorf----- | Somewhat limited Seepage | 0.43 | Very limited Depth to saturated zone Hard to pack | 1.00 0.04 | Somewhat limited Slow refill | 0.57 |
| | | | | | Cutbanks cave | 0.10 |
| 485B: Spillville----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.50 | Somewhat limited Depth to water Slow refill Cutbanks cave | 0.81 0.30 0.10 |
| 506: Wacousta----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Ponding Piping | 1.00 1.00 0.11 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| 507: Canisteo----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping | 1.00 0.63 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| 511: Blue Earth----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping Ponding | 1.00 1.00 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| 524: Linder----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.14 | Very limited Cutbanks cave | 1.00 |
| 562D2: Storden----- | Somewhat limited Seepage Slope | 0.70 0.01 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |

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Hancock County, Iowa

| Map symbol and soil name | Pond reservoir areas | | Embankments, dikes, and levees | | Aquifer-fed excavated ponds | |
|-----------------------------|---------------------------------------|--------------|---|----------------------|---------------------------------------|-------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 562E2: Storden----- | Somewhat limited Seepage Slope | 0.70 0.04 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| 562F2: Storden----- | Somewhat limited Seepage Slope | 0.70 0.18 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| 621: Houghton----- | Very limited Seepage | 1.00 | Not rated Not rated Content of organic matter Depth to saturated zone Ponding | 1.00 1.00 1.00 | Somewhat limited Cutbanks cave | 0.10 |
| 640C2: Sunburg----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 640D2: Sunburg----- | Very limited Seepage Slope | 1.00 0.01 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 640E2: Sunburg----- | Very limited Seepage Slope | 1.00 0.04 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 640F2: Sunburg----- | Very limited Seepage Slope | 1.00 0.18 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 641B: Clarion----- | Somewhat limited Seepage | 0.70 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| Sunburg----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 641C2: Clarion----- | Somewhat limited Seepage | 0.70 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |

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|-----------------------------|---------------------------------------|--------------|---|--------------|--|--------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| Sunburg----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 641D2: Clarion----- | Somewhat limited Seepage Slope | 0.70 0.01 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| Sunburg----- | Very limited Seepage Slope | 1.00 0.01 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 641E2: Clarion----- | Somewhat limited Seepage Slope | 0.70 0.04 | Very limited Piping | 1.00 | Very limited No ground water | 1.00 |
| Sunburg----- | Very limited Seepage Slope | 1.00 0.04 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| 642D2: Sunburg----- | Very limited Seepage Slope | 1.00 0.01 | Somewhat limited Seepage | 0.03 | Very limited No ground water | 1.00 |
| Salida----- | Very limited Seepage Slope | 1.00 0.01 | Somewhat limited Seepage | 0.54 | Very limited No ground water | 1.00 |
| 654: Corwith----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping | 1.00 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 655: Crippin----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping | 1.00 0.50 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 658: Mayer----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.51 | Very limited Cutbanks cave | 1.00 |

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|-----------------------------|---------------------------------------|-------|---|--------------|--|--------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 659: | | | | | | |
| Mayer----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Seepage | 1.00 0.51 | Very limited Cutbanks cave | 1.00 |
| 787B: | | | | | | |
| Vinje----- | Somewhat limited Seepage | 0.70 | Not limited | | Very limited No ground water | 1.00 |
| 787C2: | | | | | | |
| Vinje----- | Somewhat limited Seepage | 0.70 | Not limited | | Very limited No ground water | 1.00 |
| 811: | | | | | | |
| Muskego----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Ponding | 1.00 1.00 | Somewhat limited Cutbanks cave | 0.10 |
| 823: | | | | | | |
| Ridgeport----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.08 | Very limited No ground water | 1.00 |
| 823B: | | | | | | |
| Ridgeport----- | Very limited Seepage | 1.00 | Somewhat limited Seepage | 0.08 | Very limited No ground water | 1.00 |
| 836B: | | | | | | |
| Kilkenny----- | Somewhat limited Seepage | 0.57 | Somewhat limited Hard to pack | 0.12 | Very limited No ground water | 1.00 |
| 836C2: | | | | | | |
| Kilkenny----- | Somewhat limited Seepage | 0.57 | Somewhat limited Hard to pack | 0.12 | Very limited No ground water | 1.00 |
| 836E2: | | | | | | |
| Kilkenny----- | Somewhat limited | | Somewhat limited | | Very limited | |
| | Seepage | 0.57 | Hard to pack | 0.12 | No ground water | 1.00 |
| | Slope | 0.02 | | | | |
| 879: | | | | | | |
| Fostoria----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone Piping | 1.00 0.64 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |

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|-----------------------------|---------------------------------------|-------|--|-------|---------------------------------------|-------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 956: Harps----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| Okoboji----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | Ponding | 1.00 | Cutbanks cave | 0.10 |
| | | | Hard to pack | 0.73 | | |
| 1032: Spicer----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | Piping | 0.56 | Cutbanks cave | 0.10 |
| 1052B: Bode----- | Somewhat limited Seepage | 0.70 | Somewhat limited Piping | 0.34 | Very limited No ground water | 1.00 |
| Kamrar----- | Somewhat limited Seepage | 0.70 | Not limited | | Very limited No ground water | 1.00 |
| 1135: Coland----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill | 0.30 |
| | | | | | Cutbanks cave | 0.10 |
| 1221: Palms----- | Very limited Seepage | 1.00 | Not rated Not rated Content of organic matter | 1.00 | Somewhat limited Cutbanks cave | 0.10 |
| | | | Depth to saturated zone | 1.00 | | |
| | | | Ponding | 1.00 | | |
| 1259: Biscay----- | Very limited Seepage | 1.00 | Very limited Ponding | 1.00 | Very limited Cutbanks cave | 1.00 |
| | | | Depth to saturated zone | 1.00 | | |
| | | | Seepage | 0.08 | | |

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|-----------------------------|---------------------------------------|-------|--|------------------------------|--|--------------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 1339: Truman----- | Very limited Seepage | 1.00 | Somewhat limited Piping Seepage | 0.77 0.23 | Very limited No ground water | 1.00 |
| 1339B: Truman----- | Very limited Seepage | 1.00 | Somewhat limited Piping Seepage | 0.77 0.23 | Very limited No ground water | 1.00 |
| 1506: Wacousta----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Ponding Piping Seepage | 1.00 1.00 0.18 0.13 | Very limited Cutbanks cave | 1.00 |
| 1507: Brownton----- | Not limited | | Very limited Depth to saturated zone Hard to pack | 1.00 0.50 | Very limited Slow refill Cutbanks cave | 1.00 0.10 |
| 1595: Harpster----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 1733: Calco----- | Somewhat limited Seepage | 0.70 | Very limited Depth to saturated zone | 1.00 | Somewhat limited Slow refill Cutbanks cave | 0.30 0.10 |
| 2222: Adrian----- | Very limited Seepage | 1.00 | Very limited Depth to saturated zone Ponding Seepage | 1.00 1.00 0.13 | Very limited Cutbanks cave | 1.00 |
| 4000: Urban Land----- | Not rated | | Not rated | | Not rated | |

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|------------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
| | Rating class and limiting features | Value | Rating class and limiting features | Value | Rating class and limiting features | Value |
| 5010: Pits----- | Not rated | | Not rated | | Not rated | |
| 5040: Orthents----- | Not rated | | Not rated | | Not rated | |
| AW: Animal Waste----- | Not rated | | Not rated | | Not rated | |
| INT: Intermittent Water-- | Not rated | | Not rated | | Not rated | |
| SL: Sewage Lagoon----- | Not rated | | Not rated | | Not rated | |
| W: Water----- | Not rated | | Not rated | | Not rated | |

